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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,313

05/16/2006

Mark Thomas Johnson

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

KETEMA, BENYAM

ART UNIT

PAPER NUMBER

2629

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/579,313	<b>Applicant(s)</b> JOHNSON ET AL.	
	<b>Examiner</b> BENYAM KETEMA	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 2-6 and 9-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-13 are presented for examination.

#### ***Claim Objections***

2. Claim 2-6 and 9-10 objected to because of the following informalities: "Colour" should be replaced by --Color -- and claims 7 and 8 objected to because of the following informalities: "Maximise" should be replaced by --Maximize --. Appropriate correction is required

#### ***Priority***

3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. EPO 03104308.6, filed on 11/21/2003.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

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granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 and 9-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Katase. (U.S.PG Pub No. 2002/0021483A1) .

**As in claim 1, 11 12 and 13,** Katase discloses *a display apparatus, method, drive means and drive waveform comprising,*

- *An electrophoretic medium (Paragraph 3 line 1) comprising charged particles (6) in a fluid; (Paragraph 3 line 7-11)*
- *A plurality of picture elements (Paragraph 11 line 5);*
- *A first and second electrode (Paragraph 5 line 3) associated with each picture element (2) for receiving a potential difference; (Paragraph 5 line 1-11) and*
- *Drive means arranged to supply a sequence of picture potential differences to each of said picture elements (2) so as to cause said charged particles (6) to move and change the optical state of a respective picture element (2) substantially continuously between two extreme grey scales in accordance with an image to be displayed, (Paragraph 18 line 1-13)*

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- *wherein said picture potential differences have a non-zero average dc value,*  
(Paragraph 232; Fig 31 and 32 discloses the average dc level is non-zero looking at item “Xj” with respect to “Vcom”)
- *the polarity of which is selected to increase the level of brightness of one said extreme grey scales or to increase the contrast ratio of the image displayed by said apparatus.* (Paragraph 162 – 165 and Fig 18 item 3).

**As in claim 9,** Katase discloses *apparatus according to claim 1, wherein said fluid is coloured.* (Paragraph 5 line 4-5)

**As in claim 10,** Katase discloses *apparatus according to claim 9, comprising a single charged particle in said coloured fluid.* (Paragraph 5 line 4-5)

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katase. (U.S. PG Pub No. 2002/0021483A1) in view of Jacobson et al. (Patent No. 6323989)

**As in claim 2**, Katase discloses *a plurality of charged particles (6) in said fluid* (Paragraph 3 line 7-11), as discussed above, but fails to disclose *one or some of which are of a first colour and one or some of the remaining of which are of a second colour*. However, Jacobson et al. (Column 3 line 32-36) discloses plurality of charged particles having two distinct color pigmentations (Black and White). Katase and Jacobson et al. are analogous art because they are from the common area of electrophoretic display and represent known display alternatives. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the references (Katase and Jacobson et al.) because Jacobson et al. suggests combinations of different colored pigments can be used in electrophoretic displays to form different colored images. If the different colored pigments are contained in the same volume of liquid, different colors are possible provided that the motion of each color of pigment under the influence of an electric field is different. Therefore it would have been obvious to one of ordinary skill in

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the art at the time of the invention to modify the display device of Katase by applying a different colored pigments to the charged particles as disclosed by Jacobson et al. because Jacobson et al. suggests the application of different colored pigments to the charged particles will be useful in displaying variety of colors on the electrophoretic display.

**As in claim 3**, Katase discloses *wherein the particles* (Paragraph 3 line 7-11) ), as discussed above, but fails to disclose *first colour are charged with a first polarity and the particles (6) of said second colour are charged with a second, opposite polarity.*

However, Jacobson et al. (Column 3 line 32-36) discloses plurality of charged particles having two distinct color pigmentations and opposite polarity. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the display device of Katase by applying a different colored pigments and polarity to the charged particles as disclosed by Jacobson et al. because Jacobson et al. suggests the application of different colored pigments and polarity to the charged particles will be useful in displaying variety of colors electrophoretic display.

**As in claim 4**, Jacobson et al. fails to disclose *application of picture potential differences having an average dc voltage of a polarity opposite to that of the particles (6) of said first colour causes an increase in the contrast ratio of an image displayed by the apparatus.* However, Katase (Paragraph 162 - 165 and Fig 18 item 3) discloses the contrast ratio will increase as the colored particles are moved closer to the viewing

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surface. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the display device of Jacobson et al. by moving the color particles closer to viewing surface so that a better color contrast ratio can be achieved.

**As in claim 5**, Jacobson et al. fails to disclose *application of picture potential differences having an average dc voltage of a polarity opposite to that of the particles (6) of said second colour causes an increase in the brightness of an image displayed by the apparatus*. However, Katase (Paragraph 162 – 165 and Fig 18 item 3) discloses the brightness of the image displayed will increase as the charged particles are moved closer to the viewing surface. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the display device of Jacobson et al. by moving the color particles closer to viewing surface so that a brightness of an image display can be achieved.

**As in claim 6**, Katase discloses *apparatus according to claim 4, wherein said first colour is substantially black and said second colour is substantially white*. (Paragraph 162 line 7-8) discloses particles as being colored black and white. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the display device of Jacobson et al. one will be is substantially black and the second one substantially white.



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9. Claims 7, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katase. (U.S. PG Pub No. 2002/0021483A1) in view of Johnson et al. (WO 03/075086)

**As in claim 7**, Katase fails to disclose *the polarity of the average dc voltage is user-defined according to whether it is required to maximise brightness or contrast ratio of an image displayed by the apparatus*. However, Johnson et al. (Page 9 line 5-10) discloses that the operator (user) of the display device can select the optimum state of the display (i.e. brightness or contrast ratio). Katase and Johnson et al. are analogous art because they are from the common area of electrophoretic display and represent known display alternatives. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the references (Katase and Johnson et al.) because Jacobson et al. suggests a user-defined "top-up" pulse could be used. That would incorporate a button (either a physical switch or, more probably, a software button) which allows the user to restore the image to its optimum state. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the display device of Katase by adding a controller that is user-defined as disclosed by Johnson et al. because Johnson et al. suggests a user-defined pulse that would allows the user to restore the image to its optimum state (control brightness or contrast ratio).

**As in claim 8**, Katase fails to disclose *selection means to enable a user to select whether to maximise brightness or contrast ratio of an image displayed by the apparatus*. However, Johnson et al. (Page 9 line 5-10) discloses that the operator (user)

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of the display device can select the optimum state of the display (i.e. brightness or contrast ratio). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the display device of Katase by adding a controller that is user-defined as disclosed by Johnson et al. because Johnson et al. suggests a user-defined pulse that would allow the user to restore the image to its optimum state (control brightness or contrast ratio).

### **Prior Art**

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent No US PG Pub No. 2002/0005832 discloses electrophoretic display, resetting period and writing period, an image data is supplied to a data line drive circuit and a gradation voltage is applied to each pixel electrode. Webber (US PG Pub No. 2002/0180687) discloses electrophoretic display comprises a plurality of particles suspended in a suspending fluid.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENYAM KETEMA whose telephone number is (571)270-7224. The examiner can normally be reached on Monday- Friday 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shalwala Bipin H can be reached on 571-272-7681. The fax phone number

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for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Benyam Ketema /

Examiner, Art Unit 2629

/Bipin Shalwala/

*Supervisory Patent Examiner, Art Unit 2629*